

Transistors

2SC5829

Silicon NPN epitaxial planar type

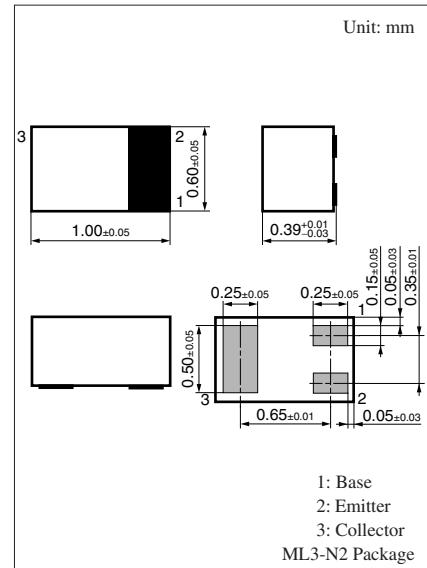
For high speed switching

■ Features

- Allowing the small current and low voltage operation
- High transition frequency f_T
- Suitable for high-density mounting and downsizing of the equipment for Ultraminiature leadless package
0.6 mm × 1.0 mm (height 0.39 mm)

■ Absolute Maximum Ratings $T_a = 25^\circ\text{C}$

| Parameter | Symbol | Rating | Unit |
|---------------------------------------|-----------|-------------|------------------|
| Collector-base voltage (Emitter open) | V_{CBO} | 10 | V |
| Collector-emitter voltage (Base open) | V_{CEO} | 7 | V |
| Emitter-base voltage (Collector open) | V_{EBO} | 2 | V |
| Collector current | I_C | 10 | mA |
| Collector power dissipation | P_C | 50 | mW |
| Junction temperature | T_j | 150 | $^\circ\text{C}$ |
| Storage temperature | T_{stg} | -55 to +150 | $^\circ\text{C}$ |

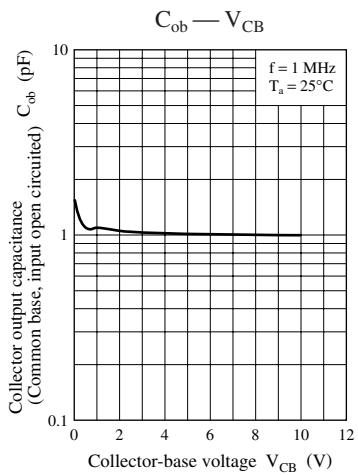
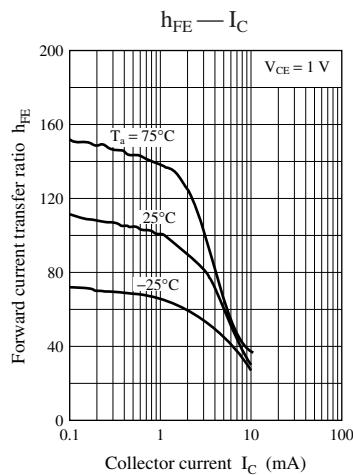
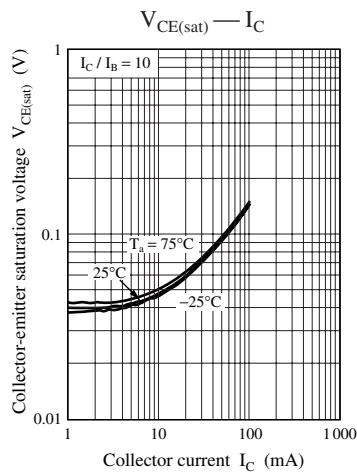
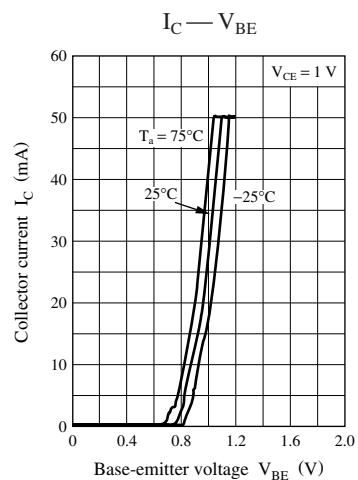
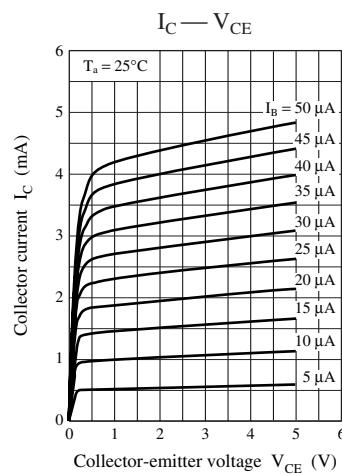
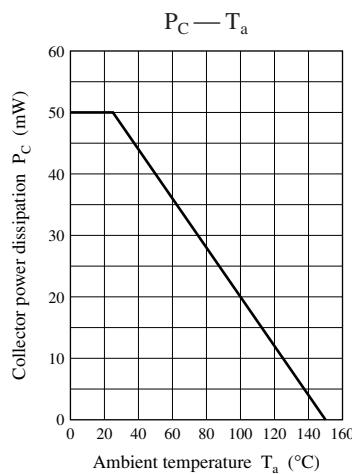


Marking Symbol: X

■ Electrical Characteristics $T_a = 25^\circ\text{C} \pm 3^\circ\text{C}$

| Parameter | Symbol | Conditions | Min | Typ | Max | Unit |
|---|---------------|---|-----|-----|-----|---------------|
| Collector-base cutoff current (Emitter open) | I_{CBO} | $V_{CB} = 10 \text{ V}, I_E = 0$ | | | 1 | μA |
| Emitter-base cutoff current (Collector open) | I_{EBO} | $V_{EB} = 1.5 \text{ V}, I_C = 0$ | | | 1 | μA |
| Forward current transfer ratio | h_{FE} | $V_{CE} = 1 \text{ V}, I_C = 1 \text{ mA}$ | 100 | | 200 | — |
| Transition frequency | f_T | $V_{CE} = 1 \text{ V}, I_C = 1 \text{ mA}, f = 0.8 \text{ GHz}$ | | 4 | | GHz |
| Collector output capacitance (Common base, input open circuited) | C_{ob} | $V_{CB} = 1 \text{ V}, I_E = 0, f = 1 \text{ MHz}$ | | 0.4 | | pF |
| Forward transfer gain | $ S_{21e} ^2$ | $V_{CE} = 1 \text{ V}, I_C = 1 \text{ mA}, f = 0.8 \text{ GHz}$ | | 6 | | dB |
| Maximum unilateral power gain | G_{UM} | $V_{CE} = 1 \text{ V}, I_C = 1 \text{ mA}, f = 0.8 \text{ GHz}$ | | 15 | | dB |
| Noise figure | NF | $V_{CE} = 1 \text{ V}, I_C = 1 \text{ mA}, f = 0.8 \text{ GHz}$ | | 3.5 | | dB |

Note) Measuring methods are based on JAPANESE INDUSTRIAL STANDARD JIS C 7030 measuring methods for transistors.



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